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Highlights

A Short History of the NIH


How NIH grew from a one-room laboratory to become the largest biomedical research agency in the world.

*"Hurry up experiments...
Work—Work—Work."*

Working Out the Code


Nirenberg's method of testing synthetic RNA in a cell-free system was a key technical innovation. Once this technique for decoding the relationship of mRNA to amino acids was publicly announced in 1961, however, there was much more to learn. First, scientists had to determine the exact combinations of nucleotide bases (codons) that specify each amino acid on a protein chain. Second, they had to sequence the order of the bases in the codons to complete the understanding of the genetic code.

For the experiment to work, Nirenberg needed some help from his NIH colleagues in several areas.




Robert C. Martin joined the de-coding race at NIH.

Robert Martin of the National Institute of Arthritis and Metabolic Diseases (NIAMD) joined Nirenberg in his quest to decipher the genetic code. He helped to obtain special synthesized RNA with random combinations of bases.




Drs. Maxine Singer and Leon Heppel provided Nirenberg with synthetic RNAs of defined sequence.


More than 20 other scientists and lab technicians helped Nirenberg; they included Philip Leder, C. Thomas Caskey, Merton Brenfield, and others.



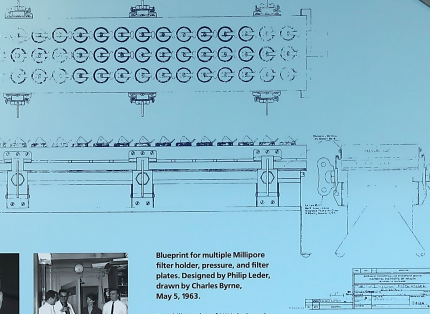
Dr. DeWitt Stetten, Jr., director of NIAMD, proudly called this period of collaboration the scientists' "finest hour."



In 1963 Dr. Philip Leder joined Nirenberg's research team to work on the base compositions of codons.



Nirenberg and NIH colleagues who helped decipher the code. (Left to right) Dr. W. French Anderson, lab technician



Blueprint for multiple Millipore filter holder, pressure, and filter plates. Designed by Philip Leder, drawn by Charles Byrne, May 5, 1963.

Dr. Philip Leder of NIH designed the multiple Millipore filtration instrument, nicknamed the "multi-plater." With this instrument, up to 45 samples could be filtered before the filters had to be changed. This instrument streamlined the process of determining

NIH was not the only place where scientists carried out studies to decipher the code. Nobel laureate Severo Ochoa and his lab at the New York University School of Medicine also worked hard on the problem. By the end of 1963, both labs had independently identified most of the base compositions of codons but the codon sequences were still unknown. Once Ochoa realized, however, that Nirenberg's lab was well on its way to establishing these sequences, he turned to other interests.

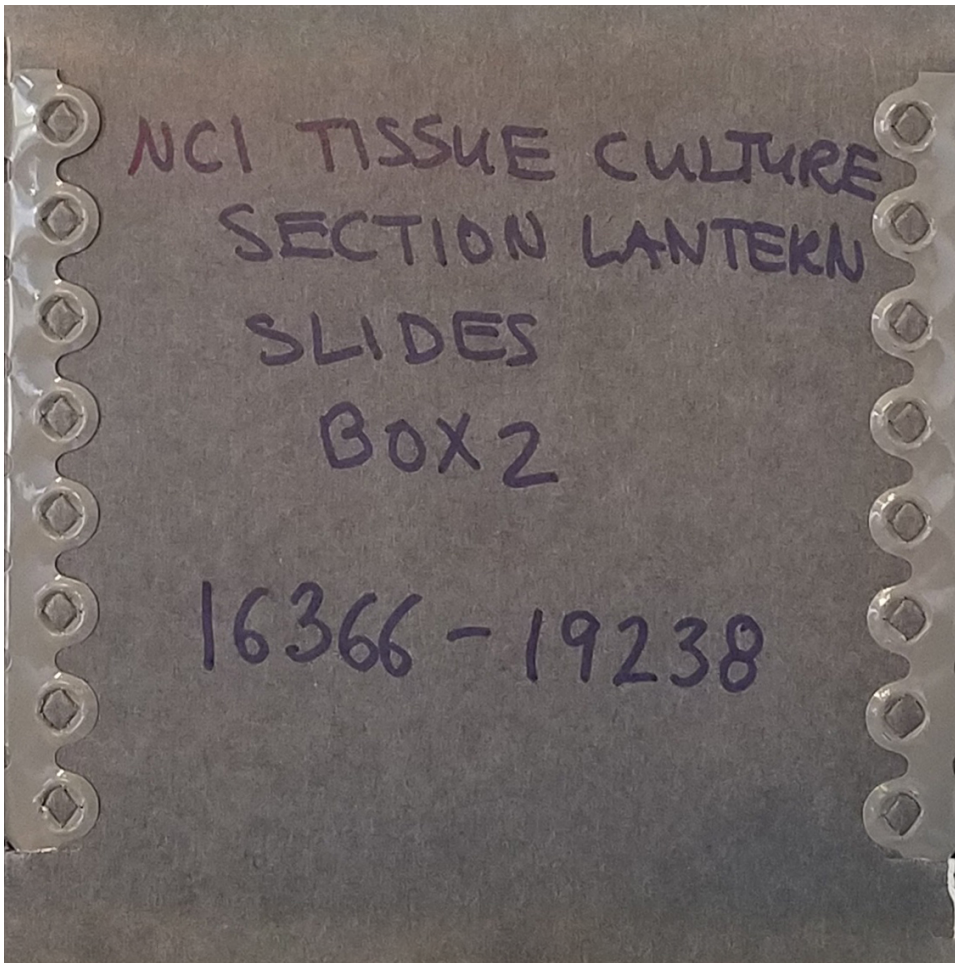
The "coding race" between these two labs fueled exciting collaboration among scientists at NIH who were eager to be the first to finish. Looking back on this period, Nirenberg later remembered, "I worked like hell. I really worked absolutely as hard as I could. It was fun. I enjoyed it."

Multiple Millipore Filtration Instrument, ca. 1964.

Sometimes, discovering new knowledge requires new technologies and new methodologies. To speed up the processing of samples that would potentially reveal nucleotide codon assignments, Dr. Philip Leder, a geneticist at NIH, created this multiple Millipore filtration instrument that could simultaneously filter 45 samples.

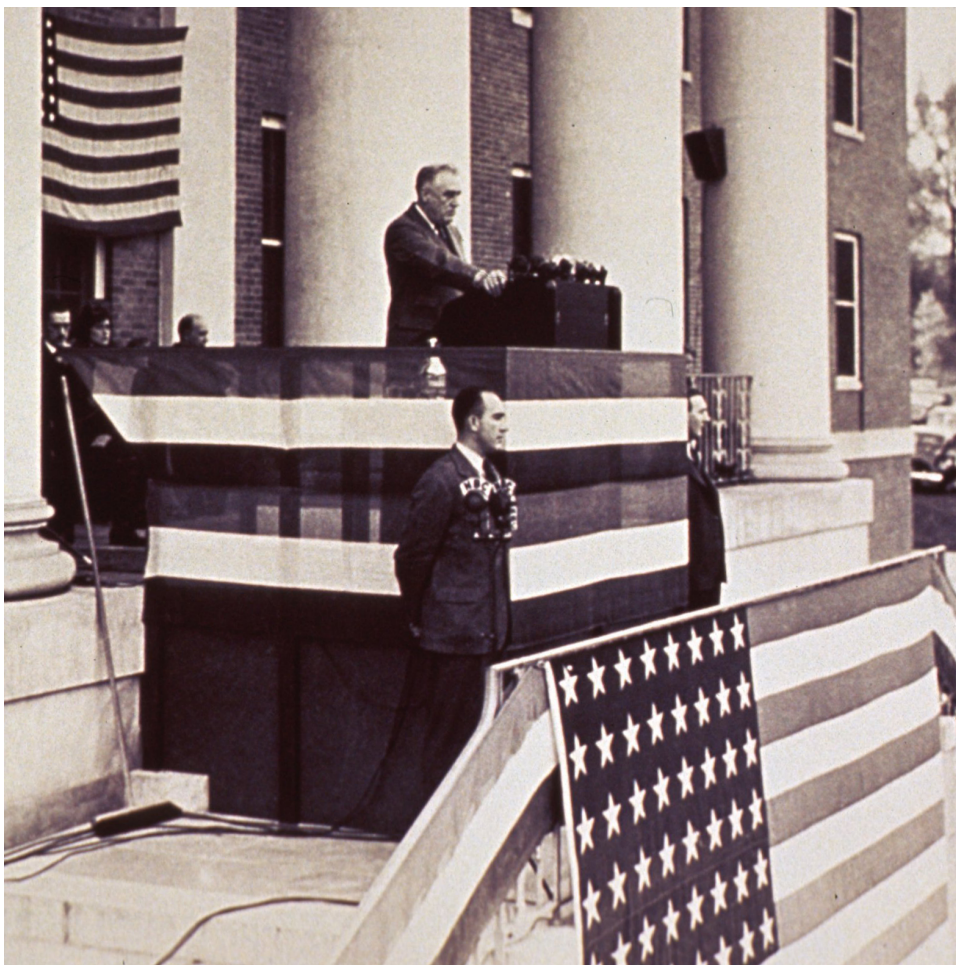
Exhibits

The DeWitt Stetten Jr. Museum of Medical Research, established in 1986, preserves and interprets the material culture of the scientific work of the NIH. In conjunction with the broader Office of NIH History, the Stetten Museum collects biomedical research instruments, photographs, videos, journals, oral histories, and objects related to the general history of the NIH, including architectural artifacts, artwork, and clothing.



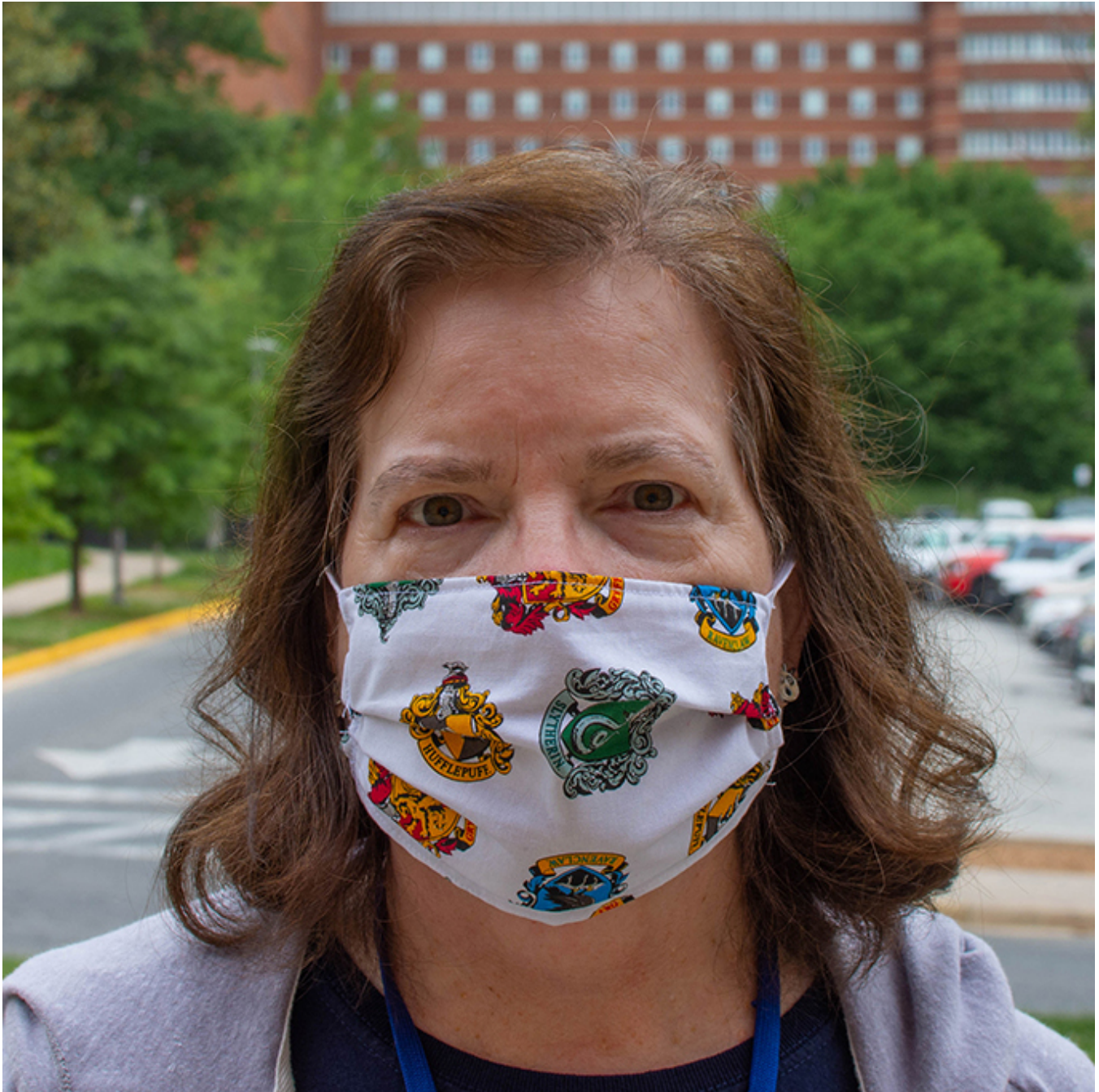
Collections

The Office of NIH History and Stetten Museum holds many collections: objects, images, and documents, and books. We have over 3,100 objects and thousands of photographs related to NIH history. There are many ways to search our collections.



Archives

The Office of NIH History and Stetten Museum was established to increase historical understanding of the National Institutes of Health and biomedical science among NIH staff, scholars, and the general public. The Office serves as a source of information for NIH history by maintaining a subject and biographical ready-reference collection.



Call for Stories: Behind the Mask

COVID-19 has impacted the NIH community in many ways—from researching and providing information about the disease, developing therapeutics and vaccines, caring for patients in the Clinical Center, and re-configuring how we perform our jobs. The Office of NIH History and Stetten Museum seeks reflections, documents, photographs, and objects about how those at NIH have experienced the COVID-19 pandemic.



New Display Cases in Three Buildings on Campus

Read a comic book about [Joseph Goldberger's work in pellagra](#) in the early 20th century at the Building 1, 3rd-floor case. Be amazed at the variety of Clinical Center patches near the Hospitality Desk on the 1st floor of the Clinical Center. Think about the social context of coloring books from the Clinical Center by its 2nd-floor cafeteria. And salute a leading woman investigator, [Dr. Margaret Pittman](#), in the Building 60 lobby.



A New Set of Neuroanatomy Drawings by Santiago Ramón y Cajal was Installed in Building 35

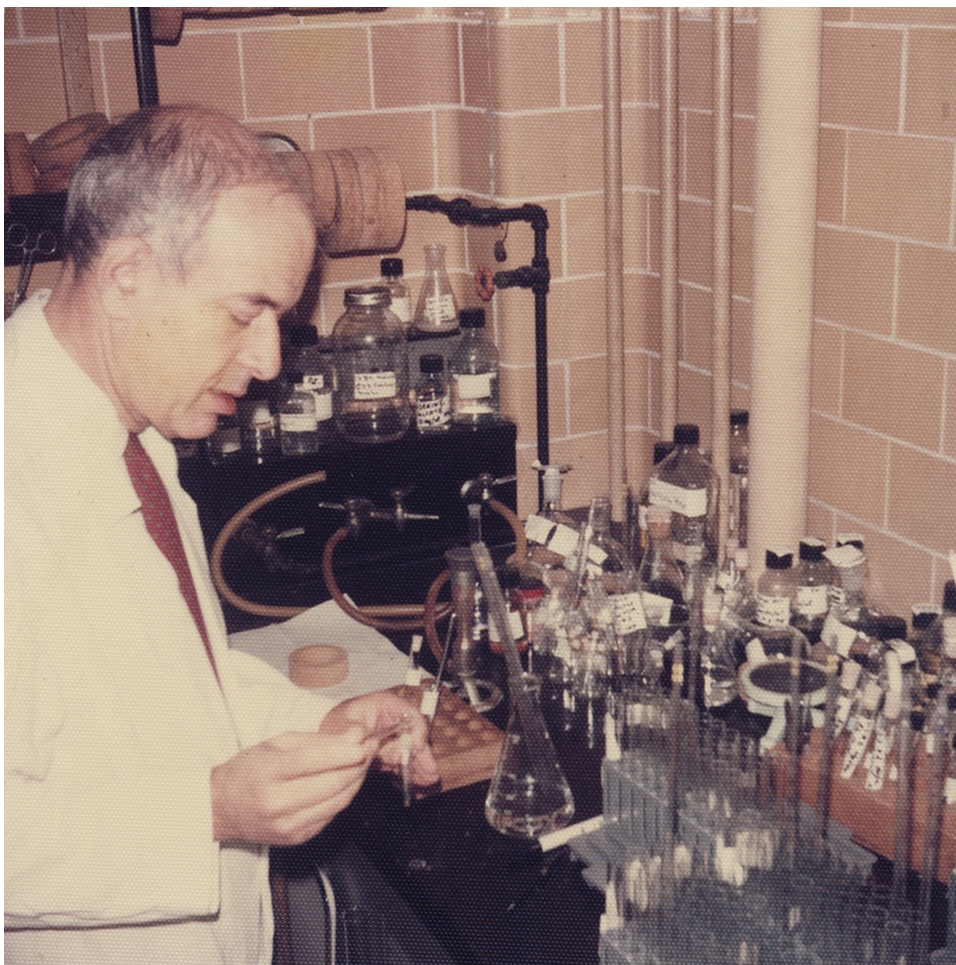
The current set of seven neuroanatomy drawings by Santiago Ramón y Cajal will remain on rotation in Building 35.



Remembering Dan Lednicer, Volunteer Extraordinaire

Courtesy of the Lednicer Family

We celebrate the life, work, and friendship of Daniel Lednicer, Ph.D., who joined our office as a volunteer in 2006 and actively contributed to our mission until his death last week at the age of 91. He is greatly missed.



Dr Herbert Tabor Dies 1918-2020

Courtesy of the Tabor Family

We are sad to relay news of the passing of Herbert Tabor, M.D., the world's foremost authority on the enzymatic pathways of polyamines, as well as an esteemed editor of the Journal of Biological Chemistry for 40 years and, until his death at age 101, a senior principal investigator in the NIDDK Laboratory of Biochemistry and Genetics, where he had served as lab chief until 1999.



Hand Hygiene in Hospitals

"One of the most remarkable developments of the last 50 years is the awakening of a sanitary conscience. It is a new thought to many men that the care of the body and cleanliness of surroundings are very considerable factors in the comfort, safety, and even the life and health of their fellow men."

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